Fish and Aquatic Life Use Updates 2022

Meeting Summary

Rulemaking Advisory Committee Meeting #4

July 27, 2022
Virtual Meeting (Zoom)

State of Oregon
Department of Environmental Quality

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DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.

List of Attendees

Advisory Committee Members: Glen Spain, Greg Sieglitz, Anne Hayden-Lesmeister, Bryan Robinson, James Fraser, John Schaefer, Mary Anne Cooper, Mike Eliason, Rich Wildman (for Oregon Farm Bureau and Oregon Forest & Industries Council), Sarah Cloud, Steve Kucas.

Agency Advisors: Brian Bangs, Michelle Maier, Anne Hayden-Lesmeister (for ODFW)

DEQ Staff: James McConaghie, Debra Sturdevant, Connie Dou, Trina Brown, Trina Brown, Michele Martin, Aron Borok,

Interested Persons: Diana Aranda, Jackie White, Lindsey Spencer, Haley Teach, Miguel Montoya, Rebecca McCoun

List of handouts and presentation notes

- First draft of fiscal impact statement.
- Discussion draft of UAA documentation.
- Presentation Slides

Agenda

Time	Topic
9 a.m.	Welcome and Introduction, Follow-Up from Meeting #3
9:30 a.m.	Overview of Technical Support Document
10:30 a.m.	Break
10:40 a.m.	Fiscal Impact Statement Review and Discussion
12 p.m.	Lunch Break
1 p.m.	Use Attainability Analysis Documentation and Overview
1:30 p.m.	Break
1:40 p.m.	Use Attainability Analysis Overview con't.
2:10 p.m.	Follow up on Crooked River pH proposal
2:40 p.m.	Wrap-Up and Next Steps
3 p.m.	Adjourn

Meeting Summary

I. Introduction and Welcome Presentation

Went over meeting objectives, agenda and ground rules - clearly stated, no suggestions.

II. Follow Up from Meeting #3

James McConaghie notified the RAC of comments that had been received after the last meeting and offline conversations that occurred regarding topics raised in the last RAC meeting. He mentioned that there was an error in the hydrography regarding the water body association with IP Paper in Springfield; that error was corrected on the maps.

DEQ received comments from four organizations regarding the DO methods. One of the comments was specific to the proposed change to re-classify Klamath River below Keno as 'cool water aquatic life'. This prompted reconsideration of the current classification. After investigation, it was determined there had been a misinterpretation of the ODFW timing tables, resulting in an error in the designation. DEQ confirmed with ODFW the correct interpretation of the timing table. Therefore, DEQ proposes to revert to the existing cold water aquatic life classification for DO in the lower reach of the Klamath River.

Glen Spain agreed with this reconsideration because there are four big dam removal projects planned for the Klamath River starting in 2023. He stated that the cold water designation is appropriate as dams are removed because the reach will again be used for anadromous salmonids in addition to resident trout. However, it was suggested that DEQ and ODFW may need to revisit the measurement after the dams have been removed. James Frasier thought the DO criteria for cold water aquatic life as applied was correct. He stated that he appreciated DEQ's response and follow up with ODFW regarding this misinterpretation.

DEQ policy on designating restored uses is to wait until after dams are removed and there is information about what specific habitat uses are reestablished. The antidegradation policy enables DEQ to protect any re-established uses that occur after dam removal, whether they are officially designated or not.

Rich Wildman asked once this rulemaking is finished, when is the next time DEQ plans to make updates to the aquatic life uses again? DEQ does not have a set schedule, but hopefully updates will be more frequent in the future. With the experience and data systems DEQ has developed though this rulemaking we're hopeful updates can be accomplished more frequently, more easily, and have more limited scope, as new data becomes available.

James McConaghie summarized the offline discussions DEQ had with OFB and OFIC and the nature of their questions.

III. Technical Support Document Overview

James McConaghie gave a presentation on the Technical Support Document (TSD). The purpose of the TSD is to provide a document with information supporting the new 'decision rule' methods to designate the ALU subcategories. The information within the TSD includes: documentation, analysis, procedures, and literature review. The TSD will be sent out in the materials before the next meeting, for the RAC for their information and to provide comment.

There were a few highlights from the TSD that James reviewed. First, the supporting analyses provided background and support for new data sets and methods added in 2022. There are two key topics within the TSD he reviewed: 1) potential bull trout spawning habitat; and 2) methods for designating core cold water use based on temperature data.

Potential bull trout spawning habitat

Potential bull trout spawning habitat 2003 designations were based on presence and habitat distribution (USFWS, ODFW). Potential habitat was identified by professional judgement in 2003. Potential bull trout spawning habitat includes additional spawning habitat outside of the current distribution needed for recovery and connectivity. There are data in the literature that exist as of 2022, but the data has not made it into ODFW's database yet. This was a consideration that DEQ made, as well as considering recent reintroductions, unoccupied habitat which is high priority for reintroduction, and any areas that may be historical habitat.

Rich Wildman asked what we consider the timeline of history to be. How do we know if bull trout were never there, verses whether they have been extirpated? For habitat designated as historical in the FHD, there is often a major dam blocking passage. If there are observations or professional judgement that fish or habitat occur in an area since 1975, we consider that an existing use. If they were extirpated before 1975 DEQ can consider that historical habitat and it's not considered an existing use. If there has not been observations of fish or presence of suitable habitat since before 1975 then we don't technically have to include it as an existing use, but there are special considerations DEQ makes in some cases, such as to support recovery of Bull Trout.

DEQ received expert opinion from the Bull Trout working groups which consist of Bull Trout biologists from government agencies, tribes, academia, and private industry throughout the state. Each basin has its own specific working group. The groups are jointly sponsored by ODFW and the USFWS, and Stephanie Gunckel coordinates the groups. They reviewed the potential Bull Trout spawning habitat used in 2003 to determine if it is still considered valid, and if any crucial habitat is missing. Their goal is to update and revise the potential Bull Trout spawning habitat for 2022.

The input from the Bull Trout working groups were presented including the general reasons for adding and removing potential spawning habitat. This includes waters newly designated for Bull Trout Spawning and Juvenile Rearing designation and any reclassified habitat. Where habitat is re-designated for a subcategory with a less stringent criteria, the rationale is documented in the Use Change Justification documentation.

James Frasier observed that in the slide presentation, there is a lot of habitat in the NE corner of the state that seemed to be missing from the map shown. The use attainability analysis doesn't explain that. DEQ replied that the figures shown in the presentation are only the waters which are newly designated for Bull Trout Spawning and Juvenile Rearing based on changes to potential habitat identified through the workgroups. There are a lot of waters where the potential habitat carried over from 2003 and are already designated for Bull Trout spawning. These areas are not shown on the figure in the presentation, but their status is not changing.

Methods for designating Core Cold Water Use based on temperature data

DEQ explained that the goal of the temperature analysis for core cold water habitats to protect above optimal rearing habitat and large scale thermal heterogeneity and landscape refugia for salmon, steelhead, and char at a scale that can maintain populations at a landscape level. Waters that currently attain the 7-day average maximum stream temperature for the Core Cold Water Habitat criteria should be designated for that use subcategory. DEQ explained the data processing methods on how this is accomplished. The temperature data sources DEQ used include the US Forest Service NorWeST observed temperature regional databases, and data from the Oregon DEQ AWQMS database used in the 2020 and 2022 Integrated Reports. These are public datasets. There were 324 AWQMS monitoring locations and 643 NorWeST monitoring locations that demonstrated consistent attainment of the Core Cold Water Habitat criteria. Many of the monitoring locations reinforced existing designations for Core Cold Water Habitat and Bull Trout Spawning and Juvenile Rearing. Not all result in application of more stringent criteria.

Steve Kucas asked for clarification on the reason for the Core Cold Water Habitat designation for the Bull Run River. Bull Run dam was constructed before 1975. Therefore, any uses above the dam were not fully attained since 1975, and data provided by the Portland Water Bureau shows that the reservoir has a hard time maintaining enough cold water to meet the current standards. The Water Bureau's comments for the fiscal impact statement were based on the assumption that the use would be reclassified from Core Cold Water Habitat to Salmon and Trout Rearing and Migration. Steve would like an explanation of how DEQ arrived at the designation of core cold water for the Bull Run.

DEQ is not proposing to change the existing designation of Core Cold Water Habitat in the Bull Run to a different subcategory at this time. The designations for the Bull Run River are based on biological indicators, and not water temperature, that occur below the dam. DEQ will follow up with the Water Bureau with an explanation of the specific reasons it was designated as Core Cold Water Habitat.

Rich Wildman asked why DEQ limited waters considered for designation as core cold water to 3rd order streams and above. DEQ responded that the purpose of the core cold water habitat designation is to protect large scale thermal heterogeneity and thermal refugia for rearing of salmon and steelhead and also habitat for adult Bull Trout. DEQ did not have much temperature data when this was last done in 2003; therefore, the focus has been on significant amounts of habitat that will support those species and their communities. The upstream waters rule means we classify areas upstream of the monitoring stations for the Core Cold Water Habitat use. If sensitive uses occur downstream, the smaller order streams are also designated for Core Cold Water Habitat through our upstream waters decision rule. Even in areas designated for Salmon and Trout Rearing and Migration, we would expect colder temperatures to occur in the headwaters so that downstream temperatures could attain 18°C. The purpose of the use designations are to protect the habitat needs of sensitive species, not to mico-manage every pocket of cold water we can detect. Additional Core Cold Water Habitat indicator species

DEQ provided highlights of the additional analyses discussed in the technical support document, including literature reviews and the in-depth supporting analyses. The key topics focused on non-salmonid indicators for Core Cold Water Habitat. DEQ explained the non-salmonid biological indicators evaluated for the need and suitability for designating additional Core Cold Water Habitat. These were Pacific lamprey, amphibians, and freshwater mussels. A warm water species, the foothill Yellow-Leg Frog was also evaluated as an additional biological indicator for designating the Cool Water Species subcategory.

James Frasier commended DEQ for considering whether additional protection was required for other cold-water species and that DEQ consulted with outside experts. He asked if DEQ consulted with the Xerces Society about freshwater mussels for pH, specifically in the Crooked River subbasin. DEQ did not explore pH requirements for freshwater mussels in communications with Xerces or in the literature.

Greg Stiglitz asked how DEQ accounted for stream-obligate species, like Yellow-Legged Frog, Cascade Frog, and Pacific Giant Salamander? DEQ considered the Yellow-Legged Frog for designating the Cool Water Species subcategory, because it requires warmer thermal conditions than the salmonids. However, the stream obligate amphibians have requirements that are either within the range of criteria protected by the existing uses for salmonids, or they occupy cooler micro-habitats within streams, and would be poor indicators for waterbodies that overall stay below 16°C all summer.

Framework for designating salmonid spawning and presumed resident trout spawning

DEQ explained the framework for identifying Salmonid Spawning uses for dissolved oxygen criteria in greater detail. This explains how DEQ plans to identify spawning habitat for salmon, steelhead and char, and presumed spawning habitat for resident trout in order to apply dissolved oxygen criteria to protect spawning and early life stages of sensitive organisms.

EPA noted that the term 'presumed use' as DEQ explained it, is not in the Clean Water Act, but there are presumptive uses. DEQ noted that several states use the concept of a 'presumed use' to mean waterbodies where, in the absence of sufficient information about the occurrence of a use in the waterbody, criteria to protect the use will be applied in case it occurs there, and until more information is available. DEQ and EPA need to have further conversations about this concept and requirements under the Clean Water Act.

Greg Sieglitz asked whether any modeling of resident trout spawning habitat suitability had been done. Was DEQ planning to use ODFW's aquatic inventories modeling, or models of stream gradient and channel type? DEQ inquired with the technical workgroup about the potential use of habitat suitability models that could narrow down waters suitable for resident trout spawning habitat. ODFW is working on developing several models, but they were not completed and ODFW did not think they would be ready in time to contribute to this rulemaking. DEQ is aware that Idaho DEQ and the USGS used a gradient and flow model to designate their resident trout spawning habitat. That could serve as an example for further development. DEQ doesn't have a timeline for when it might work with ODFW or other agencies to do a modeling effort like Idaho has done. It is unlikely to play a role in this rulemaking.

Rich Wildman asked what the difference was between the Technical Support Document (TSD) and the Use Attainability Analysis documentation. The TSD documents all the supporting information and analysis for the methods we use to designate the aquatic life uses. It is a part of DEQ's rulemaking. The UAA has analysis that justifies the highest attainable use only when changing a water's current designated use category to one associated with a less stringent criteria. It is a specific requirement of the Clean Water Act.

IV. Fiscal Impact Analysis

Mailea Miller-Pierce presented a summary of the expected fiscal impacts of the proposed rules. She acknowledged and thanked the RAC for providing comments on the draft fiscal impact statement. She asked that the RAC send any additional comments by August 10th for incorporation into the next draft. She explained why the fiscal impact statement is required by ORS and why DEQ is required to involve the RAC by law. The presentation included the possible positive and negative fiscal impacts from the proposed rules.

Glen Spain thought the fiscal analysis was thorough and well balanced. He recognized the vast economic benefit to protecting aquatic life for the fishing industry and believes there is a connection to providing a healthy, clean, and supportive ecosystem. He will be providing additional written comments.

Debra Sturdevant noted that the questions displayed in the fiscal presentation (#3, slide 17) are the questions that DEQ is required to ask the advisory committee and seek their input. The RAC has until August 10 to send any addition information or thoughts about these questions, for incorporation into the next draft and for the public comment period.

James Frasier thanked DEQ for acknowledging the comments received from Trout Unlimited which were not incorporated yet due to DEQ staff and vacation schedules. He asked whether there are any thoughts for changes to pH with fiscal impacts; could DEQ address the avoided costs due to the change in pH to a less stringent criteria? What are the avoided costs of changing the pH criteria from 8.5 to 9? There may be an avoided cost if a TMDL for pH is no longer necessary if the criteria become less stringent. There seem to be two segments in the Crooked River subbasin that are listed for pH that would be potentially de-listed if the criteria are changed. A TMDL for pH may not be necessary if the criteria are changed. If there is not a listing for pH it seems to be an avoided cost for both DEQ and affected sources.

DEQ responded that there are a few sites in the Crooked River basin which could be de-listed for pH with a change in criteria, but there is at least one site that will remain listed. DEQ is not sure that a TMDL would be avoided in any case. If, for example, the change in criteria meant DEQ did not have to do a TMDL for pH,

that would be a benefit to state resources, as DEQ saves the cost of staff work. However, a TMDL for the Crooked River basin, if not for pH than for other criteria associated with nutrient pollution, such as dissolved oxygen, is most likely necessary. Such a TMDL to address nutrient pollution related to elevated pH and reduced D.O., would still be necessary if the pH criteria are changed. Through that process DEQ would still evaluate impairments related to nutrients.

James Fraser further noted that under the current pH criteria, there is a pending TMDL that would require certain actions between point and non-point sources requiring changes to come into compliance. So, if a TMDL was avoided, it would be a benefit to these sources. He is requesting that the fiscal impact statement reflect that.

DEQ thought that there are enough impairments related to other indicators for nutrient problems- and that a TMDL would lead to limits related to those indicators, even if not necessarily for pH. Changing the criteria is more about having the appropriate criteria to target pH limits, rather than seeking to avoid a TMDL.

V. pH criteria

In interest of the schedule, the discussion about pH occurred before lunch. Debra Sturdevant presented the updates and incorporation of RAC comments received since this topic was introduced. Some of the concerns were centered around impacts to pH from excessive nutrients or algal growth. The current criteria were established in 1996, and was written as a range (6.5-8.5) to protect aquatic life. The Crooked River and Trout Creek subbasins belong to the same ecoregion as the John Day Basin.

For aquatic life protection, the pH criteria protect aquatic life from negative impacts. Direct impacts to salmonids occur at pH's higher than 9. Higher acidity (low pH) can increase the toxicity of other pollutants present, but this is not typically a concern in the range of 8.5-9. Typically, a high pH (>9) is used as an indicator of excessive plant and algal growth. To limit algal growth, nutrients likely need to be reduced.

The proposed pH criteria of 6.5-9.0 is consistent with EPA recommended criteria for salmonids. DEQ is not aware of any information which suggests negative impacts to aquatic life in that range. As mentioned in the rule language, there are elevated pH levels in the basin likely related to nutrient enrichment that may need to be controlled to avoid negative anthropogenic effects. Excessive algal growth may need to be addressed by nutrient control, not necessarily by limiting pH alone.

James Frasier asked a question about the proposed rule language. What happens if DEQ determines that pH levels higher than 8.7 are determined to be anthropogenic in origin? If DEQ has the resources and determines that levels above 8.7 are anthropogenic in origin, then what is the next step? DEQ responded that pH doesn't require corrective action at that point, it's simply informative. In many cases the cause of elevated pH, if not natural, is likely to be associated with excessive algal growth problems, that are also indicated by exceedances in other water quality parameters. DEQ should be looking at how to address the algal growth and nutrient issues, which is not addressed by setting load allocations for pH. It's addressed by setting load allocations for nutrients.

DEQ repeated that because a TMDL for nutrients in the Crooked River is on the horizon, having the correct criteria for setting appropriate targets for pH would be beneficial.

James Frasier asked whether the aquatic life technical workgroup or some other science panel reviewed or suggested this pH criteria change? He mentioned that because the 1996 technical advisory committee recommended the 8.5 threshold. He wanted to know if this was a staff priority or initiated by outside experts?

DEQ responded that the 1996 technical committee did not make specific recommendations for the Deschutes. They recommended an upper range below 8.5 for Western Oregon and 9.0 for Eastern Oregon. The Deschutes

basin was included in the Western portion. This did not recognize the difference between tributaries that drain the west (the Cascades) and the east (the John Day basin and plateau) sides of the Deschutes basin. This criteria change was a staff identified priority. There hasn't really been an in-depth technical review of this revision since it is supported by the materials already compiled for the 1995 rulemaking.

A committee member asked whether a copy of the 1995 pH issue paper was available? DEQ emailed a copy to the RAC after the meeting.

VI. Use Attainability Analysis

Aron Borok presented on Use Change Justification requirements and an overview of the types of changes, their factor, and the supporting information that justifies when changing use subcategories to those with less stringent criteria. The goal is to batch similar changes for efficiency. The key topics presented included the types of use changes, the UAA factor, and the highest attainable use.

Rich Wildman asked whether we expect this UAA analysis to be a routine one? Or will EPA be really scrutinizing these analyses? DEQ responded that the EPA must decide if we have the information to justify the uses. Michelle Maier mentioned that the EPA will be looking at the suggested changes closely and they must meet requirements and have sufficient scientific supporting information to justify the change.

Rich Wildman asked whether other states have done the UAA process routinely? Michelle responded that some states have done these more frequently, but Oregon has not done them often.

James Frasier asked whether the temperature data in any one area is still outstanding? He gave the example of the Kilchis River which was sampled in 1998-2000, and 2004. Nearly all those dates were prior to the past rulemaking. If that watershed is going to have a change in designation due to temperature, is there more recent data that we haven't seen in the document?

Aron clarified the kinds of data provided in the UAA documentation. If there is more recent data showing the use can be attained, we would certainly look at it. James McConaghie mentioned that he would have to review the data on the Kilchis that lead to the proposal to change the highest attainable use. If the Kilchis was designated in 2003 only based on the EcoTrust study, and doesn't meet any of the biological indicators, we would propose to remove it. He noted that DEQ doesn't use contemporaneous temperature data as a rationale to remove Core Cold Water Habitat Designations. DEQ only adds additional Core Cold Water Habitat to the designations based on data showing attainment of the 16°C criterion.

The final category was the update to Redband Trout use. In 2003 there were not a lot of data on Redband trout habitat distribution and their timing. ODFW now has very complete data on Redband Trout distribution and timing. They do not exist in certain areas, for example they do not reside in low desert valley streambeds in July and August. The highest attainable use in such waters is Cool Water Species in these cases, and UAA factor 5 (physical conditions and natural features) is used as the justification why a more stringent use is not attainable.

Greg Sieglitz asked whether in SE Oregon, the Redband Trout use the lower ends of waterbodies in the winter, but move up in the summer? What is the designated use because of the season aspect of the use? NOAA is confirming beneficial use in streams during summer Redband Trout use. DEQ replied that in timing units where Redband move upstream in the summer, the highest attainable use is cool water species. Streams where they reside during the summer are protected for Redband trout use, with the 20°C criterion.

The RAC asked whether the UAA document been sent to the committee? Yes, it has. The TSD has not been sent yet and a discussion draft will be sent prior to the next meeting.

VII. Wrap up and Adjournment

DEQ opened the floor to Committee Members for final questions or comments.

Greg Sieglitz mentioned the changing climate. There is a lot of uncertainty with some aspects about climate change. Some data that we've already seen, and some model results indicate, that salmon are being impacted. For example, modeled results about projected stream temperatures. How does that play into the proposed designations and rule and what messaging may be included in the rule moving forward? DEQ said that this could be considered an action item and is a conversation to have with EPA, NOAA and other fisheries agencies in terms of what we should do. DEQ will consider where to address this directly in our materials.

Debra Sturdevant stated that the use designations we are identifying are focused on the uses or habitat that can be considered existing uses since 1975. The data and information DEQ is using is based on presence of fish populations or suitable habitat to provide the best estimate of where they have occurred since 1975. DEQ is not removing uses because of impacts due to climate change, at this time. DEQ is making corrections and identify the correct uses that should be considered existing uses.

For the present, the Core Cold Water Designations partly addresses climate change by identifying where the cold water refuges in the landscape occur, and provides a higher level of protection. DEQ is going to have to make that message clear to the public.

James McConaghie stated that in his opinion, the data DEQ is using captures and integrates information about fish and habit distribution across multiple years, including at least the years since 1975 covered by the Clean Water Act. The changes to designated uses resulting from this rulemaking really have to do with replacement of provisional data or professional judgement with additional field data. Also in his opinion, he would not say the impacts related to climate change that are starting to accrue are yet widely reflected in the FHD. We are not seeing shifts in habitat distribution or timing at the scale of the entire state reflected in the updates to the FHD since 2003, and therefore our use designations. He sees this rulemaking as an opportunity to capture the most complete picture of where we understand the existing uses to be in DEQ's updated aquatic life use designations.

In terms of the future, DEQ is not sure what could happen regarding attainability of the designated uses, but DEQ does not expect to change the designations solely due to warming temperatures going forward. In many cases, human activity has warmed temperatures from activities on the landscape, and there is potential for restoration that should help counter effects of increased air temperature due to climate change. DEQ is unsure what a state level response would be if and when climate change starts making the designated uses we have captured here unattainable. There likely needs to be some coordination between the states and the federal agencies about what we do under the CWA as climate change does starts to make attainability of designated uses in certain waterbodies impossible.

Greg mentioned there is a real nexus on climate change with NOAA. There is more forecasting needed for adapting to climate change, where this effort is currently more of a hindcasting. James stated that DEQ should think about acknowledging some of the high-level points we have raised in response to your questions in either in the TSD or staff report.

Open floor to non-committee members for questions.

Are the draft maps available to the public?

After this meeting, DEQ will send a draft meeting summary and allow about 1 week for review and corrections. DEQ will also provide a discussion draft of the Technical Support Document to the RAC before the next meeting. The RAC was asked to provide comments on revising the fiscal impact statement by August

10. The RAC was asked to provide preliminary comments on the UAA documentation by August 15. Please provide comments to aquaticlife.2022@deq.oregon.gov.

Before the next RAC meeting DEQ will send a second draft of the Fiscal and Economic Impact Statement (FIS).

The final meeting planned topics include the:

1) Aquatic Life Use definitions revisions
2) Final thoughts on the revised fiscal and economic impact statement.
3) Question and answers on the technical support document.
4) Opportunity for written comments on the Technical Support Document and the Use Change Justification (UAA).

The final meeting is scheduled for Aug. 24, 2022 at 9am.

Alternative formats

DEQ can provide documents in an alternate format or in a language other than English upon request. Call DEQ at 800-452-4011 or email deqinfo@deq.oregon.gov.